

2020 round of TSE EURL EQAs: Results feedback

11th October 2021

EURL PrP Immunohistochemistry NRL Performance Technical EQA

Barbara Iulini



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

Proficiency Testing

21
laboratories

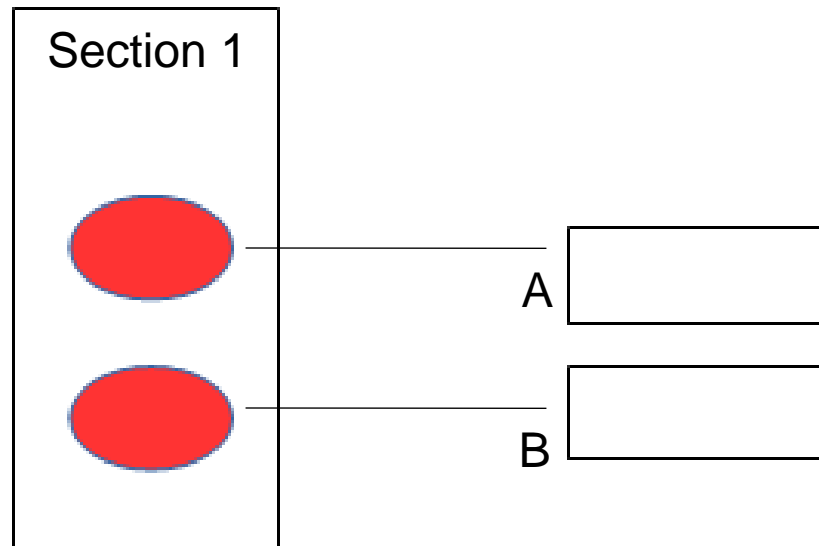


TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020

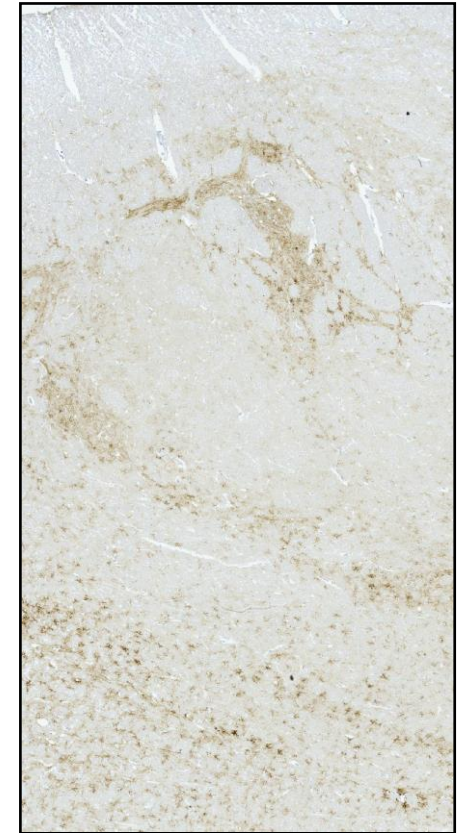
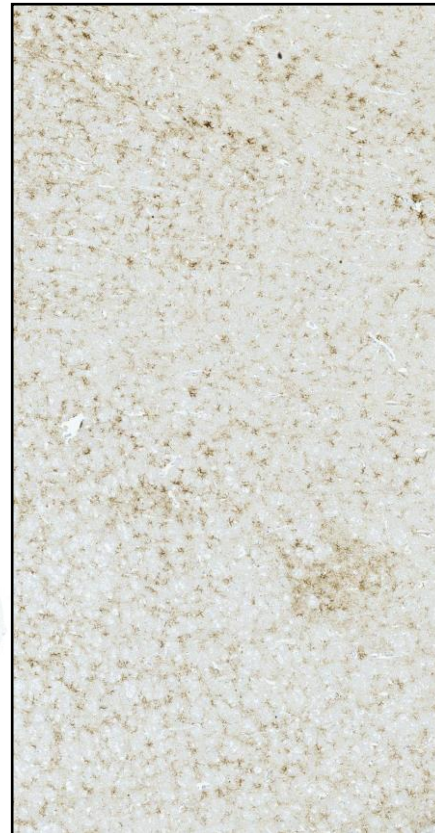
- **Two set** of eight unstained sections on four labelled slides, which include both BSE and scrapie infected animals. Ovine slides include lymph node material.



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020 - Expected Labelling



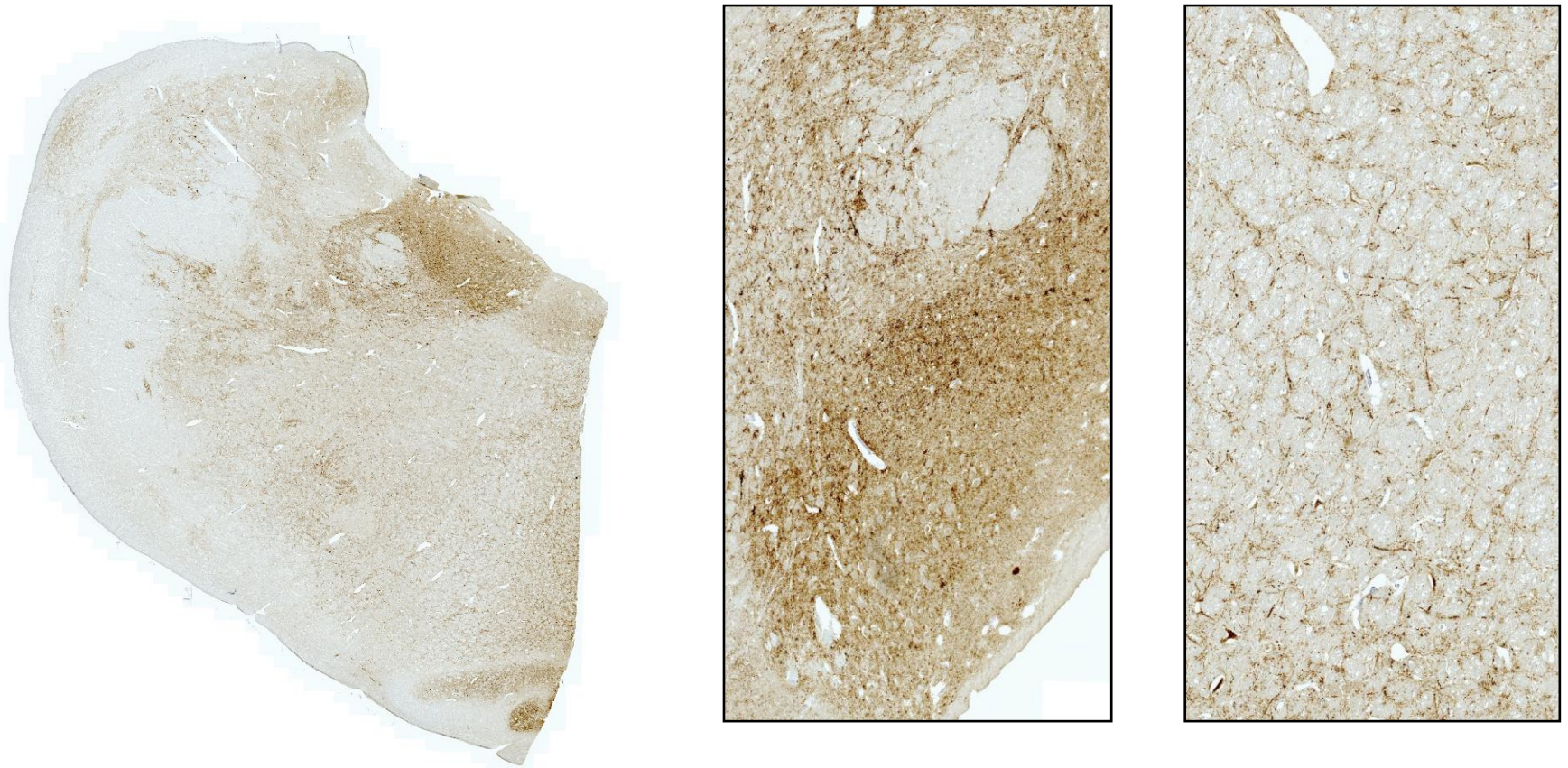
CLASSICAL SCRAPIE

TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin

Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020 - Expected Labelling



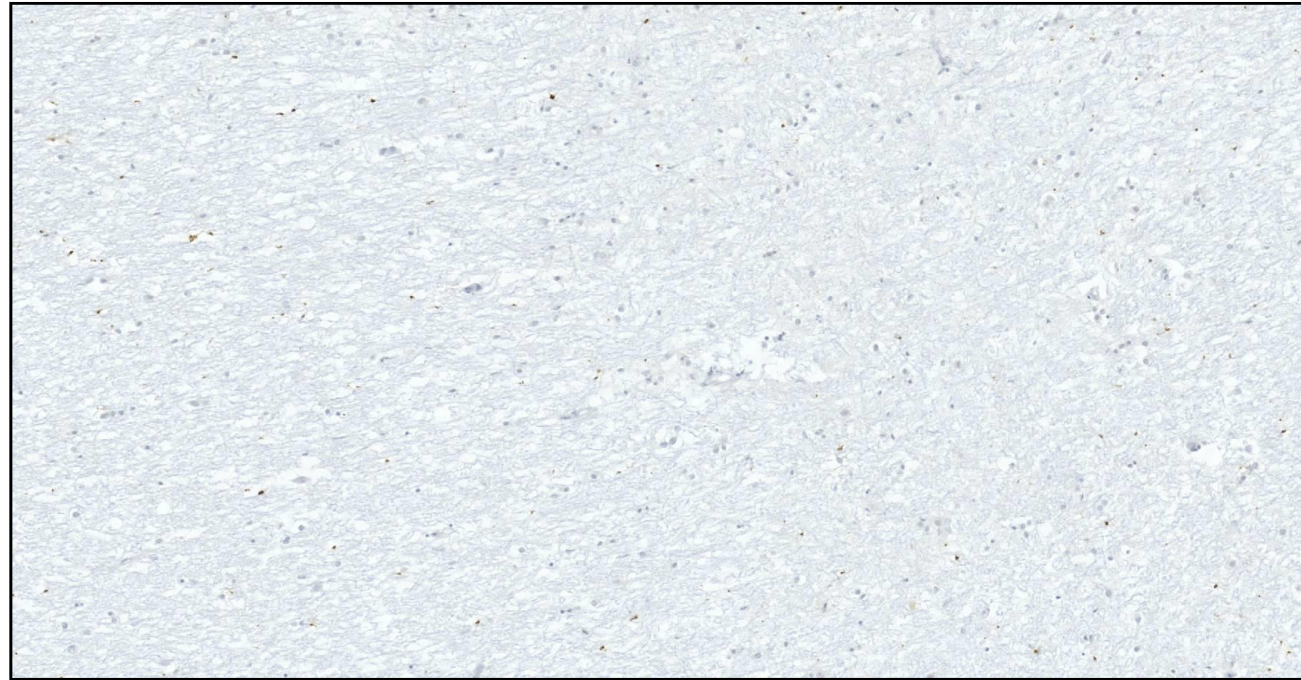
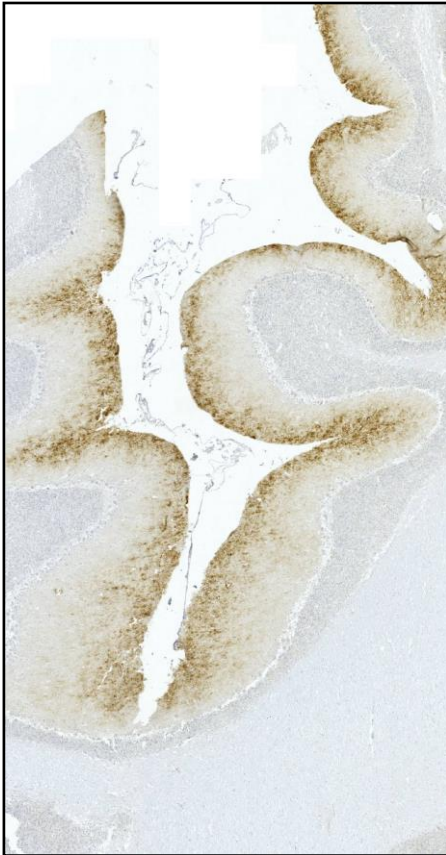
BSE POSITIVE



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020 - Expected Labelling



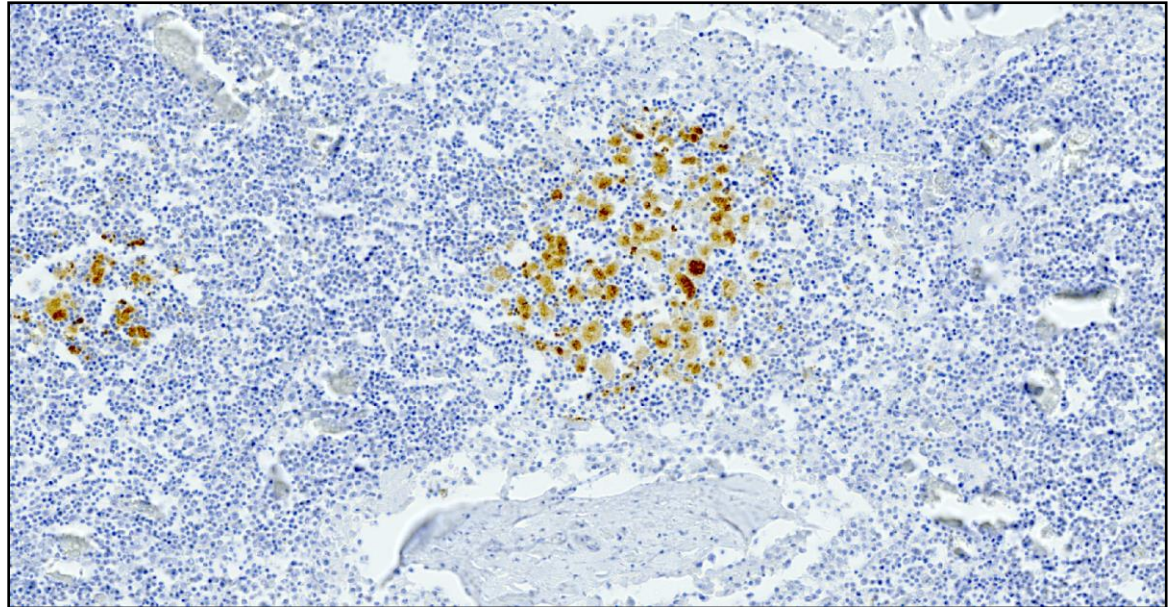
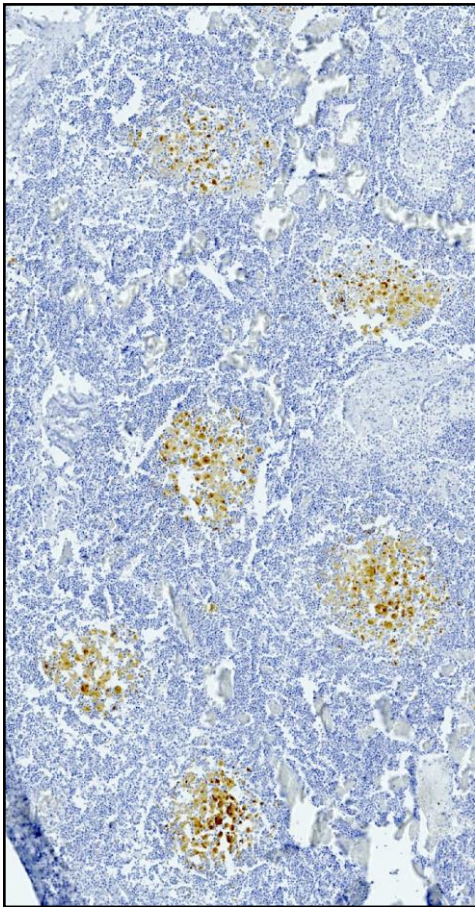
ATYPICAL SCRAPIE



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020 - Expected Labelling



LYMPH NODE



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin

Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020

Antibody preference for BSE cases

F99	F89	L42	12F10	6C2	R145	6H4	SAF84
7	2	3	3	1	3	1	1



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020

Antibody preference for Scrapie cases

F99	F89	L42	2G11	6C2	R145
6	3	2	7	1	2



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC Results - Antibody BSE cases

F99 x 7	F89 x 2	L42 x 3	12F10 x 3	6C2, 6H4, SAF 84, x 3	R145 x 3
6 Pass	1 Pass	2 Pass	3 Pass	3 Pass	3 Pass
1 Fail	1 Scope for improvement	1 Scope for improvement			



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC Results - Antibody Scrapie cases

F99 x 6	F89 x 3	6C2 x 1	L42 x 2	2G11 x 7	R145 x 2
5 Pass	1 Pass	1 Pass	2 Pass	4 Pass	1 Pass
1 Scope for improvement all sections	1 Scope for improvement on lymphatic tissue and atypical scrapie 1 Scope for improvement on lymphatic tissue			1 Scope for improvement on all sections 2 Scope for improvement on lymphatic tissue	1 Scope for improvement on lymphatic tissue



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC Results – Detection Systems

Vector ABC Kits x 11	Vector ImmPRES S, x 2 Dako EnVision Detection kit x 2	Sigma HRP PAP Complex kit x 1	Dako REAL Detection System x 1	Ultra sensitive ABC Peroxidase Kit Thermo Scientific x 1	Abcam Mouse and Rabbit Specific HRP (ABC) Detection IHC Kit x 1	Dako streptavidin HRP kit x 1	Ventana Ultraview kit x 1
<p>8 Pass</p> <p>1 Scope for improvement on lymphatic tissue</p> <p>1 Scope for improvement on BSE and on lymphatic tissue</p> <p>1 Scope for improvement on all sections</p>	<p>4 Pass</p>	<p>1 Fail on BSE, Scope for improvement on ovine lymphatic tissue and Atypical scrapie tissue</p>	<p>1 Scope for improvement on lymphatic tissue</p>	<p>1 Pass</p>	<p>1 Pass</p>	<p>1 Scope for improvement on ovine tissues</p>	<p>1 Scope for improvement on lymphatic tissue</p>



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020 - Results

21 labs took part Including - 1 Italy lab - 3 non-EU	BSE Medulla	Classical scrapie Medulla	Classical scrapie Lymph node	Atypical scrapie Cerebellum	Atypical scrapie Medulla
Pass	18	19	14	20	18
Improvement required	2	2	7	1	3
Fail	1	0	0	0	0



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020 - Conclusions

- 14 Member states passed all categories compared with the EURL.
- 7 laboratories had **SI** in one or more categories to follow up themselves



- *3 lab had problems with BSE*
- *2 lab had problems with classical scrapie*
- *3 lab had problems with Atypical scrapie*
- *7 lab had problems with lymphatic tissue*



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020 - Conclusions

This round we sent a double set of slides and in this way we saved time and money!

Major technical problems encountered were:

- low sensitivity in atypical scrapie cases and lymph node
- aspecific signal
- excessive counterstaining



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020

Two labs with **SI** have received additional tissue sections from EURL in order to make changes in the IHC method and improve sensitivity.

No technical PT will be organized in 2021



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

PrP IHC EQA 2020

Timescale

- EURL will dispatch PT samples in the next year
- Two weeks to perform the PT and to send back the PrP immunostained sections.



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome

THANK YOU FOR YOUR ATTENTION

Dr.ssa Barbara Iulini/Cristina Casalone

SS Neuropatologia

Tel +39011- 2686261 -296

e-mail barbara.iulini@izsto.it; cristina.casalone@izsto.it



TSE EURL

Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta – Turin
Istituto Superiore di Sanità - Rome